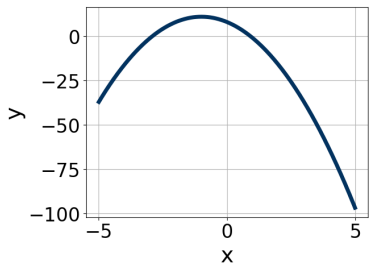
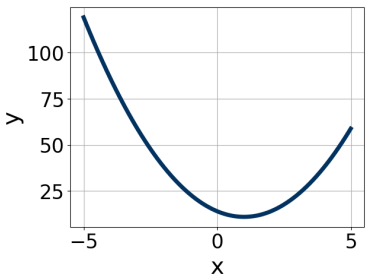
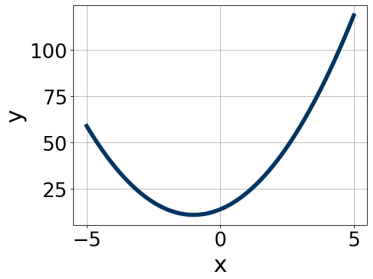
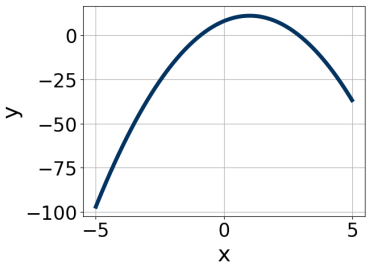
1. Graph the equation below.

$$f(x) = -(x-1)^2 + 11$$

A.


C.


B.


D.


E. None of the above.

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2. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$10x^2 - 13x + 2 = 0$$

A. $x_1 \in [-1.4, -0.1]$ and $x_2 \in [-0.18, 0.82]$

B. $x_1 \in [1.4, 2.4]$ and $x_2 \in [10.22, 12.22]$

C. $x_1 \in [-1.1, 1.2]$ and $x_2 \in [1.12, 6.12]$

D. $x_1 \in [-9, -8.5]$ and $x_2 \in [8.08, 11.08]$

E. There are no Real solutions.

---

3. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$81x^2 + 90x + 25$$

A. $a \in [-6, 2]$, $b \in [41, 49]$, $c \in [-0.4, 2.6]$, and $d \in [41, 52]$

B. $a \in [9, 10]$, $b \in [5, 9]$, $c \in [6.2, 12.3]$, and $d \in [0, 10]$

C. $a \in [22, 29]$, $b \in [5, 9]$, $c \in [1.7, 5]$, and $d \in [0, 10]$

D. $a \in [3, 7]$, $b \in [5, 9]$, $c \in [26.6, 27.5]$, and $d \in [0, 10]$

E. None of the above.

---

4. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 25x - 36 = 0$$

A. $x_1 \in [-0.71, -0.32]$ and $x_2 \in [2.39, 2.41]$

B. $x_1 \in [-45.74, -44.28]$ and $x_2 \in [19.97, 20.18]$

C. $x_1 \in [-9.57, -7.92]$ and $x_2 \in [0.04, 0.25]$

D. $x_1 \in [-2.53, -1.43]$ and $x_2 \in [0.75, 0.81]$

E. $x_1 \in [-4.18, -3.5]$ and $x_2 \in [0.26, 0.64]$

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5. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$11x^2 - 12x + 3 = 0$$

A. $x_1 \in [0.31, 0.51]$ and $x_2 \in [0.1, 0.8]$

B. $x_1 \in [3.88, 4.32]$ and $x_2 \in [6.8, 8]$

C. $x_1 \in [-3.3, -2.62]$ and $x_2 \in [2.1, 4.3]$

D. $x_1 \in [-1.63, 0.2]$ and $x_2 \in [-0.9, 0.2]$

E. There are no Real solutions.

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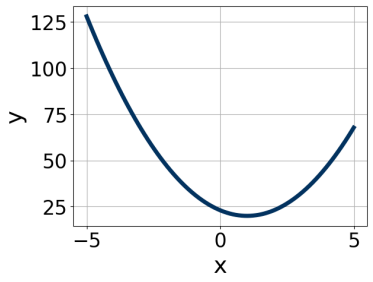
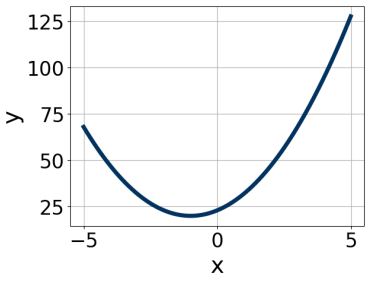
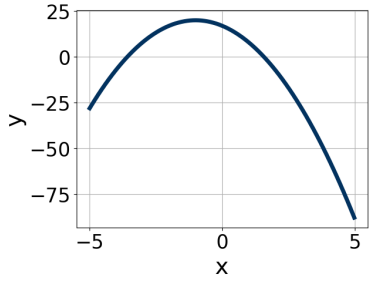
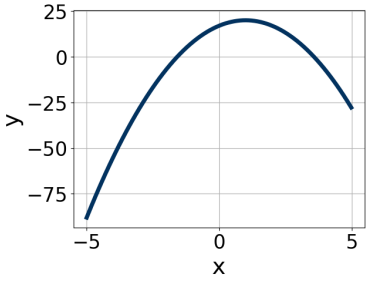
6. Graph the equation below.

$$f(x) = -(x + 1)^2 + 20$$

A. 

C. 

B. 

D. 

E. None of the above.

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7. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 - 50x + 24 = 0$$

A. $x_1 \in [0.18, 0.28]$ and $x_2 \in [3.53, 4.07]$

B. $x_1 \in [0.62, 0.83]$ and $x_2 \in [0.84, 1.28]$

C. $x_1 \in [19.98, 20.03]$ and $x_2 \in [29.73, 30.11]$

D. $x_1 \in [0.55, 0.73]$ and $x_2 \in [1.47, 2.23]$

E. $x_1 \in [0.33, 0.55]$ and $x_2 \in [1.9, 2.69]$

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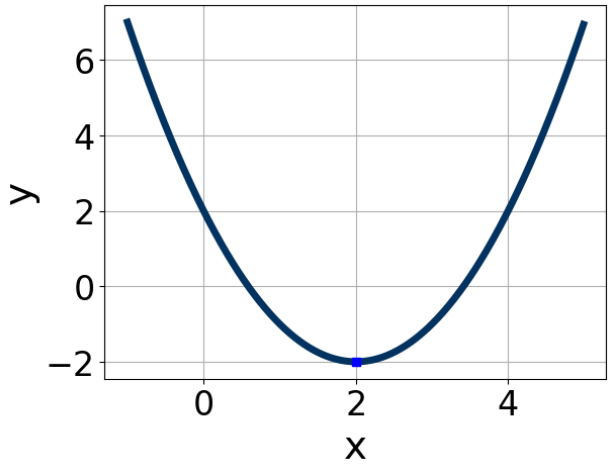
8. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1, 0]$, $b \in [4, 7]$, and $c \in [-7, -4]$

B. $a \in [0, 5]$, $b \in [4, 7]$, and $c \in [0, 4]$

C. $a \in [0, 5]$, $b \in [4, 7]$, and $c \in [4, 8]$

D. $a \in [0, 5]$, $b \in [-4, -3]$, and $c \in [0, 4]$

E. $a \in [-1, 0]$, $b \in [-4, -3]$, and $c \in [-7, -4]$

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9. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$54x^2 - 69x + 20$$

A. $a \in [5.94, 7.72]$, $b \in [-5, -3]$, $c \in [5, 13]$, and $d \in [-6, -3]$

B. $a \in [0.23, 1.4]$, $b \in [-49, -43]$, $c \in [1, 3]$, and $d \in [-24, -23]$

C. $a \in [1.09, 2.11]$, $b \in [-5, -3]$, $c \in [27, 28]$, and $d \in [-6, -3]$

D. $a \in [11.78, 12.62]$, $b \in [-5, -3]$, $c \in [3, 6]$, and $d \in [-6, -3]$

E. None of the above.

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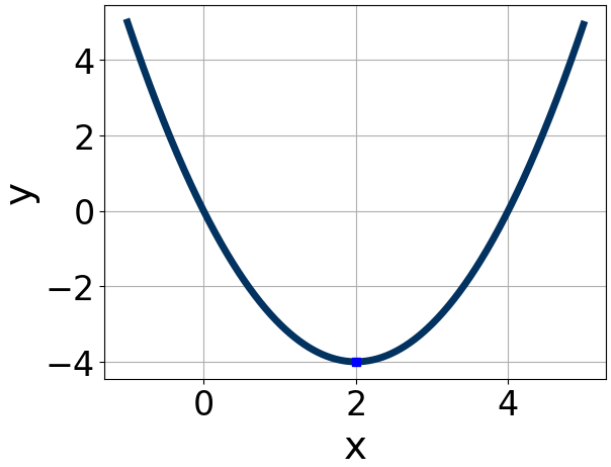
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [0.5, 2.3]$, $b \in [2, 6]$, and $c \in [-1, 1]$

B. $a \in [-1.2, 0.5]$, $b \in [2, 6]$, and $c \in [-8, -5]$

C. $a \in [-1.2, 0.5]$, $b \in [-7, 0]$, and $c \in [-8, -5]$

D. $a \in [0.5, 2.3]$, $b \in [-7, 0]$, and $c \in [-1, 1]$

E. $a \in [0.5, 2.3]$, $b \in [2, 6]$, and $c \in [8, 10]$